

ATCO NEWSLETTER

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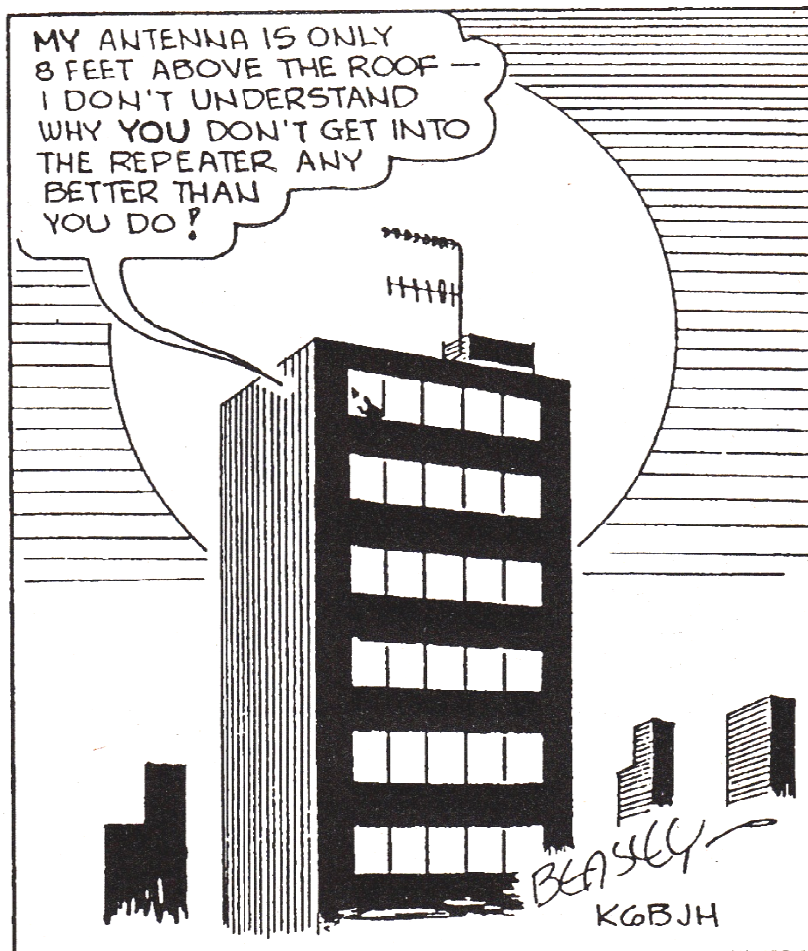
The ATCO newsletter is the official publication of a group of amateur television operators known as "AMATEUR TELEVISION IN CENTRAL OHIO Group Inc" and is published quarterly (January, April, July, and October)

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ATCO SPOTLIGHT TOPIC

Thanks to Beasley, K6BJH (SK) and ATVQ Magazine for allowing us to share his cartoons. For the complete book on "The Best of Beasley" go to the ATVQ Magazine web site (<http://atvquarterly.com/>) available for purchase.



ACTIVITIES ... from my Workbench



OK, it's Newsletter time again. There's lots of stuff going on but it seems every time I get started on something new, something else breaks. Therefore, I find myself creating a lot of projects but never finishing any of them. Does that sound familiar? If so, welcome to the club. If not, you are probably not doing anything! If per chance, it doesn't sound familiar and still nothing breaks, I really need to find out how you do it and invite you over to my place for assistance. OK, now on to the tasks at hand.

First, we are working on removing the DVB-C (QAM) repeater output and replacing it with a DVB-T transmitter and receiver. We found that there is almost no interest in QAM operation. At first, it seemed like a good idea because the signal could be received on an ordinary TV without any modification. However, now that DVB-T is being used by ATV DXers due to the availability of inexpensive receiver dongles, there is a high interest in this mode of operation. Also, successful long distance communication with low power transmitters with DVB-T doesn't hurt either. In any case, we are going to switch also and ring in on some of that DX. The transmitter will be operational on 423MHz which is the same channel

occupied by the 421MHz QAM transmitter but now we'll have it connected to a horizontally polarized antenna. It's still cable channel 57. I have the horizontally polarized Lindsay antenna ready to go as soon as Dale finishes the transmitter construction. When complete it will have an output power of about 25 watts into the 6dB gain antenna. It remains to be seen if we will interfere with the DARA signal on 421 in Dayton. If we do, we'll have to find an alternate frequency because they were there first. In addition, I'm concerned that the 423 and 427 transmitted signal will produce a problem at your receiver since they are within the 427 receiver pass band. Ken, W8RUT, says he hasn't seen a problem here. We will just have to wait and see. After all, it's Ham Radio/Television folks!

The repeater DVB-T receiver will share the 439MHz antenna with the 439MHz analog receiver. Whichever signal is received on 439 will be displayed, analog or DVB-T. The receiver is being readied by Dale, WB8CJW, at this time. When Dale has the electronic bugs worked out, he'll turn it over to me for packaging. That will happen sometime in August.

Next on the agenda is to re-install a remote 439 receiver at the Jones Road location. That will give us a remote 439 input to the ATCO repeater. In addition, I installed a remotely controlled camera on that tower last year but have had no time to build the controller for it. I'm happy to say that the new controller is now almost ready to install. When operational, you will be able to input a 439 ATV signal in South Vienna and have it received in Columbus. In addition, with the actuation of an ABC enable code on 147.48 it will enable the camera there. Then you can pan and zoom the horizon for weather details. The operation of the pan/zoom will be the same as for the roof cam at the repeater. As soon as I finish the software for the controller, I'll install it. At a future time I'll move the 439 rib cage antenna there to a higher location on the tower so the Dayton ATVers can work into it too.

Other projects here at home include an RF amplifier for the 1280MHz band primarily for use with my DATV-Express board but will also work with any other low power analog transmitter for 1280 including the Comtech board to output about 10 watts. More details on this later. At this time I don't know if it will be just a construction article, a kit of all parts or a complete assembled amplifier for sale. I'll need to see if there is interest.

OK, now it's time for me to climb onto my soapbox and ask for more participation at the Spring/Fall events. There were only 25 people at the last Spring Event! I don't know why except for, maybe, an overall lack of general interest in ATV. I sincerely hope that's not the case. Maybe we've not been offering good door prizes. If that's the case, we can fix that. Speak up, either privately to me or to the group at our Tuesday nets and let us know what you'd like to see that would heighten your interest. **Plan to attend the upcoming Fall Event (I'll tentatively set the date as Sunday, October 26) to see some great door prizes. We already purchased one specifically for that event with more to come.** We'll have a separate drawing for the purchased prizes.

That's all for now guys. Comments are welcome!
....73, WA8RMC



Why the FBI is investigating a 91-year-old Former Nuclear Engineer

Don Miller's rare collection of Native American artifacts isn't the only thing that has piqued their interest

Here is an update of the article I featured in the Spring ATCO Newsletter. There it covered only the news story of the FBI raid. Here I include the brighter side of the story that I felt everyone should know about. I know and talked to Don on numerous occasions...what a guy!!! WA8RMC

This past April Fool's Day in Waldron, Indiana, a cavalry of FBI agents swarmed the farm where 91-year-old Don Miller was born and still lives today. Miller leads a pretty simple life: He practices the organ and sometimes makes calls on his ham radio, but he rarely leaves his house except to go to church. He is beloved by his neighbors. Not exactly the typical profile of an FBI target.

But Miller wasn't always this much of a homebody. Over the course of 60 years, he has traveled the world, picking up a wide array of art treasures and relics. Though the collection isn't well-known outside central Indiana and Miller's social circle, his thousands of items include: ancient arrowheads and Jivaro shrunk heads from South America, petrified woolly mammoth tusks, the egg of a T. Rex, pottery from Hopi and Zuni tribes, an Egyptian sarcophagus and a Chinese terra-cotta soldier.



Don Miller W9NTP

"I was blown away," says Larry Zimmerman, an anthropology and museum studies professor at Indiana University who joined the FBI investigation and saw Miller's pieces for the first time. "It's a huge collection for a private individual." Zimmerman says some of Miller's pieces rival the Native American collections of many museums.

When the FBI came last month, they brought dozens of agents, art crime experts, archeologists and artifacts specialists. Spending several days scouring his house, they pitched a massive yellow tent on Miller's property for about a week to examine his artifacts. They wound up carting away hundreds of pieces for further inspection.



Larry Zimmerman
WISH TV

At a time when there's more scrutiny than ever on the provenance of art and the pedigree of the collector, Miller is a throwback to a time when you didn't necessarily need to be wealthy or connected to pick up valuable pieces, and you didn't need to be an archaeologist to get access to interesting artifacts. You might call him Indiana's Indiana Jones.

Miller got the collecting bug as a kid, picking up arrowheads that he found walking around in the fields, and it became his chief passion as he got older. He gathered up artifacts when he went on church missionary trips overseas, and during his vacations. But Miller didn't always collect the conventional way. Instead of making purchases from local collectors or galleries, he sometimes went on digs—often digs that he had brokered with local officials. One longtime friend and neighbor, Amy Mohr, describes how Miller prepped for one trip by stuffing an entire suitcase full of cigarettes that he used as barter for precious goods. "He goes all over the world and is good at talking to the locals to find this stuff," she says.



FBI at Miller's residence

When we called Miller's house a couple of weeks ago to find out more about his art trove and the FBI's interest, he answered the phone but then said he wouldn't be available to talk. At some point soon thereafter, his phone number was disconnected. But a handful of Miller's friends, interviewed by phone, have helped shed light on how he acquired his art and other defining moments in his long life, including his work on the atomic bomb.

A couple of the people we interviewed say Miller sometimes ran into hairy situations during his artifact-collecting trips to more than 200 different countries. He even had his own *Raiders of the Lost Ark* moment: One time, in the '70s, he encountered the Libyan military when he was on a dig, says Rick Bolt, who worked with Miller, a nuclear engineer, at the Naval Avionics Center in Indianapolis, which later became Raytheon. "They were in western Egypt at some ruins, and the truckloads of people in his expedition were heading down this road, and all of a sudden the military ambushed them."

They were held at gunpoint and interrogated for several hours, their passports snatched, Bolt says. "They thought they were CIA and trying to infiltrate their country," he says. The soldiers eventually released Miller and his team, but warned them, "We don't want to see you again or it will not be pleasant," Bolt remembers Miller telling him.

Another time, Miller was stopped with keepsakes and forced to hand them back. In 2004, he managed to grab lemon-sized cannonballs from the citadel in earthquake-ravaged Haiti during a missionary trip. But when Miller tried to bring them aboard the plane on his flight back, they were confiscated. "They said, 'We know what these are, and you can't have these.' He just let them take it," says Mohr, who was on the trip.

Arrowheads in Miller's collection

During the decades that Miller has been traversing the world in search of rare items, the laws around collecting antiquities have changed. In 1990, the federal government passed the Native American Graves Protection and Repatriation Act, which says that anybody caught trafficking in Native American cultural items, can get slapped with heavy fines and a year in prison. With a second offense, the term of imprisonment jumps to five years.



The law, which is in part an effort to prevent grave-robbing of Indian burial sites, also requires anyone taking possession of funerary objects to get consent from the tribe's kin or its official governing body.

Skeletal remains in Miller's basement

Miller's huge collection, much of it kept behind glass cases, fills up his entire basement and spills over onto the ground floor of his house. The FBI won't say whether there was something specific that sparked the investigation, but Zimmerman says one thing that piqued the government's interest was the human remains. They include the skeletal body of an Indian chief—under glass with the label "Sioux warrior 19th century"—as well as some fractured skulls and a bunch of femurs.

"If they're Native American human remains there's no way he should own those," Zimmerman says.

Miller isn't someone you'd likely pick out on the street as a serious collector of artifacts. He's about 6 feet tall, leanly built and reserved, and looks more like a former high school football coach than an armchair archaeologist. "To get Don to talk you have to engage him in conversation," says Jack Spaulding, who has known Miller since childhood and has spoken to Miller and his wife, Sandy, in the days since the FBI surrounded his farm. "He's not flamboyant or outgoing. He's not the type of person to bust into the room and say, 'Eureka! Look what I've found!'"

Miller with his signature outfit and ham radios

To people who know him, Miller is instantly recognizable by his signature attire—he wears the same thing almost every day: a red polo shirt with his ham radio call sign, W9NTP, and blue pants. "When he went to buy the shirt he kind of liked it so much he bought a dozen of them," Spaulding says. "He wears a comfortable pair of blue pants with that shirt, and he has a dozen pairs of those pants, too." Spaulding says Miller changes out of those clothes only on Sundays for church, when he dons a tie and sport coat while playing the organ for his congregation.



Over the years, Miller has gladly opened his collection of artifacts to any comers, friends say. “He gave tours to everybody, including the Boy Scout troop,” says Mohr.

How much of his collection he could now wind up losing is unclear. A spokesman for the U.S. Attorney’s Office in Indianapolis, Tim Horty, says the purpose of pursuing Miller wasn’t to bring charges against him but to “recover as many of these artifacts as we can and repatriate them.” Horty says, “We want to return them to who we think are the rightful owners.” The FBI has already begun contacting Native American groups about Miller’s collection; both the FBI and the U.S. Attorney’s Office say Miller has been extremely cooperative the whole time. Spaulding says the timing of the FBI pursuit of Miller is odd, as most of his pieces have been behind glass for years. “Something must have really been a major concern, and that’s why they went in the way they did. Something they thought was inappropriate.”

In fact, it appears that’s exactly what happened—and the item that initially concerned the FBI had nothing to do with Native American art.



At 22, Miller, then an army engineer, was chosen to help develop the first nuclear bomb. One of his jobs, according to Bolt and Dave Zeph, who also worked with Miller at the Naval Avionics Center in Indianapolis, was to build closed circuit TVs for the first test detonation, known as the Trinity test, on July 16, 1945. It would be a way for senior military officials to try to gather as full a picture as possible of the explosion before the cameras vaporized.

The experience of working on the bomb scarred Miller, and in the 1950s, convinced the world was going to end, he built a concrete bomb shelter with his own hands, complete with electricity, air filtration and running water. “He was a doomsday prepper,” says Bolt. “He was prepared for three to four weeks underground.”

The bomb shelter is part of his basement, where in addition to the Native American artifacts; Miller has some keepsakes from his time working on the Manhattan Project. About 10 years ago, Miller invited Richard M. Gramly, a Harvard-trained anthropologist, and a friend to visit his home.

When Miller took Gramly downstairs, it wasn’t the art that grabbed his attention. “There was a patch of the army unit to which he belonged,” Gramly recalls. “It had a mushroom cloud with a lightning bolt coming out of it.” Behind the mushroom cloud patch, he says, was a literal bombshell. “On the shelf was a triggering device for an atomic bomb. The first bomb [Little Boy] that blew up Hiroshima was made exactly from those components,” says Gramly.

He said the half-hollow sphere was the size of a softball and the central sphere was the size of a golf ball. “It was heavy uranium, which is heavy metal. One cannot confuse uranium isotopes with lead. Don Miller, in my opinion, did not have a copy of a trigger on the shelf of his display case in his basement relic room—rather he had the real McCoy.”

The discovery shook Gramly. “To my horror, I see the man has a switch,” he says. “No private person should have this device.” The night ended and Gramly kept what he saw to himself. Later, though, a friend forwarded him a photo (likely taken without Miller’s consent) of the switch. Convinced that it could fall into the wrong hands and that someone could potentially use it to make a dirty bomb, Gramly decided to call the authorities. “I hate to rat someone out, but it’s no longer a private thing.” He reached out to a relative of his who was a colonel at the Pentagon, who told Gramly to contact the FBI, which he did. That was in 2008.

Neither the FBI nor the U.S. Attorney’s Office in Indianapolis will comment on the Gramly matter. But both offices in Indianapolis confirm that federal agents visited Miller’s house 18 months to two years earlier on an issue unrelated to the Native American artifacts. That visit, potentially to look into Gramly’s tip about the bomb components, could have possibly triggered the action at his farmhouse last month and the deeper look into Miller’s collection of artifacts.

Gramly is convinced he did the right thing: “Miller is getting to an age where he could die any day. How would you like to go to a yard sale and buy that nuclear device for 50 cents?” he asks. “I feel like I’ve done my duty.”

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INEXPENSIVE VIDEO MONITOR

I was browsing through E-Bay items the other day and discovered the ad for a small LCD video monitor. I was led to it at the recommendation of Charles, WB8LGA who had purchased one. It is just the display and associated control PCB with no enclosure. That wasn't a problem for me as I wanted to incorporate it into my own enclosure to create a 4 display rack panel to use with my ATV setup. See also a picture of my 4 display assembly I used at RWB this year later in this issue.

The display is the same one used in the Apple I-Pod and not very large but just right for monitoring the various signals and looks great in my shack. Each monitor is available on E-Bay for \$18.00 at this URL:



<http://www.ebay.com/itm/331040572849?ssPageName=STRK:MEWAX:IT&trksid=p3984.m1423.l2649...WA8RMC>

There is something different on Fast Scan Amateur Television.

Change is a coming! You can almost smell it. Is that U Charlie.
Something different! IS on ATV DVB-T

There is a lot of activity on Digital ATV on the 70 centimeter band. The activity is called DVB-T. (Digital Video Broadcasting-Terrestrial). Here is a list of Amateur Radio Operators that are on DVB-T now:

WB8LGA, KA8MFD, W8URI, K8PYQ, AH2AR, W8RVH, W8ZCF, W4HTB, W8RUT, W8ARE, and WB8CJW all with the UT 100-B. (To be explained later) There are some out of town stations with this capability that include WB8ELK, N3DC, K0PFX, N0OBG, WB2AZQ, and KB2ATV. Those with receive only mode include KC8ZEG, W9NU, and W1CTC.

If you're on AM ATV now, it's possible that you may want to consider an upgrade to DVB-T if you like high quality pictures. The pro's are:

It doesn't break the bank to get on this mode. To get a receive only module that plugs into your USB port is about \$9-\$25. The minimum bandwidth for these modules is 6 MHZ. (Realtek RTL2832U & R820T DVB-T Tuner with Blaze 6 or Presto PVR software) Here are pictures of the two types that worked for us:



WB8LGA Dongle and parts



KA8MFG Dongle and parts

The cost for an all in one transmit and receive dongle that plugs into your USB port is \$230.

This will give you DVB-T transmit at about the one milliwatt level. With a \$5 MMIC you will be able to get the power up to about 60 milliwatts or you can drive a RA60H4047M RF brick and get 30 watts out. Here is a list of some power amps that have worked with DVB-T: Downeast Microwave, old style D1010 or D100, RF Concepts, and Darko. (Darko from Australia)

The cons would be:

You will need a computer.

The operating system needs to be Windows XP or higher.

DVB-T does not like QSB

There is not much RF filtering in the UT 100-B so side frequency RF may stop it from receiving video.

There are a number of us in Ohio and Kentucky that are using the UT 100-B. The bandwidth can be varied from 2 MHz to 6 MHz. There are four of us that use a MMIC device and an old solid state TV amp to get about 250 watts out with about 30 milliwatts input. This is being read with a Bird Wattmeter. Other hams are using a RA30H4047M brick amplifier that can get about 18 watts output. Here are some power/distance details that have been worked so far:

1 milliwatt/ 5 miles, 60 milliwatts/ 9 miles, 3 watts/ 24 watts, 4 watts/ 36 miles. W8ZCF worked W8RVH at 66 miles. W8RUT has worked WB8LGA, KA8MFD, and W8URI 16 to 24 miles, AH2AR in Vandalia has worked W8RVH 3 watts 15 miles, AH2AR has worked WB8LGA, KA8MFD, and W8URI at 66 to 89 miles, W8RVH has worked W8ZCF, AH2AR, WB8LGA, KA8MFD, and W8URI at 66 to 72 miles, and W8ZCF has worked AH2AR, WB8LGA, KA8MFD, W8RVH, and W8URI at 66 to 137 miles.

W8ZCF has the distance record so far with a DVB-T contact to Hank, W4HTB at 184 miles. These reports were done in the winter months from December to March.

If you are able to see AM ATV at a P1- P2 level than you will probably see those pictures on DVB-T noise free at digital quality.

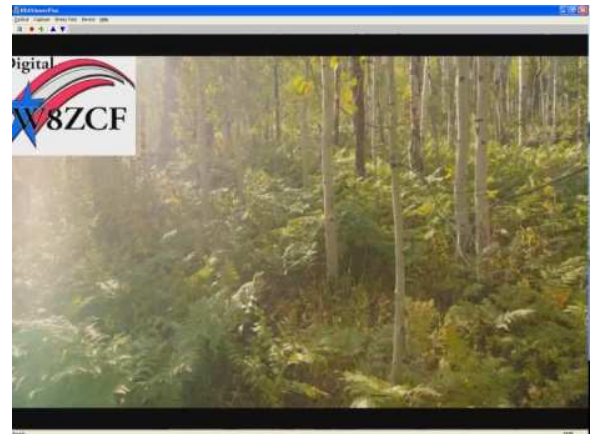
We are learning more each day. If you would like to join us, we are on the morning ATV net on 3930 at around 7:45 A.M. EDT every day. Most of us use 25 element antennas with hardline and low noise pre amps. The average contact is at 125 miles on AM and in the summer it could be as far as 330 miles.



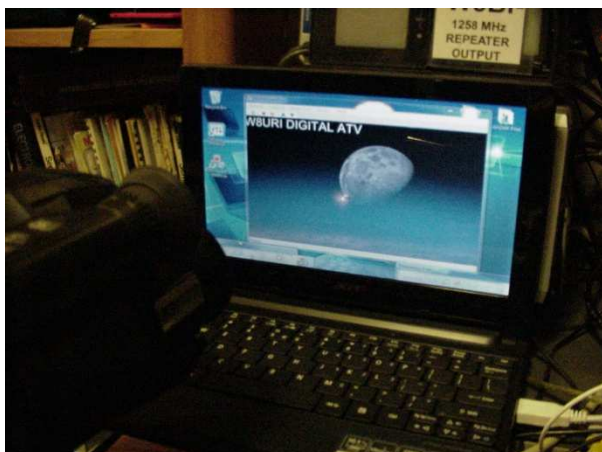
W4HTB rx W8ZCF 184 miles



Picture that W8ZCF received from WB8LGA



Picture WB8LGA received from W8ZCF on March 5 2014. Farrell was running about 150 watts:



Picture from AH2AR of his received signal of W8URI on DVB-T:



Picture of the DVB-T setup at the location of W8ZCF.....

Now that I have got you to think about going to DVB-T, here is the dongle that is used. It is from Hides Co. The web link is www.idealz.com/hides/product-detail/en_US/35644. If Hides Co. was to be rated, it would be a 20 out of a 1-10 scale. Their support is excellent. Questions were answered quickly. They stand behind their product 100%.

The UT 100-B comes with a CD that has a number of programs on it. These include:

BDA Viewer: This is a receive program install.

Digital TV 3.4Build 24_20130714: This folder is a receive program install. It is an easy to use program and works well.

Driver Windows: This is where you would point to load the systems drivers for the Dongle.

Media2TS: This is the install for the conversion program that converts video files to a TS Stream file. It works, but not all of the time.

PC2TV: This is the install program that allows you to stream to the UT 100-B to transmit to your monitor stream or to stream any video hardware to the UT 100-B. This program is difficult to get working.

SDK_Linux/SDK Windows: The SDK folders are for code writers for Linux or Windows.

TS Files: In this file are samples of videos that you may use to see if your system is working.

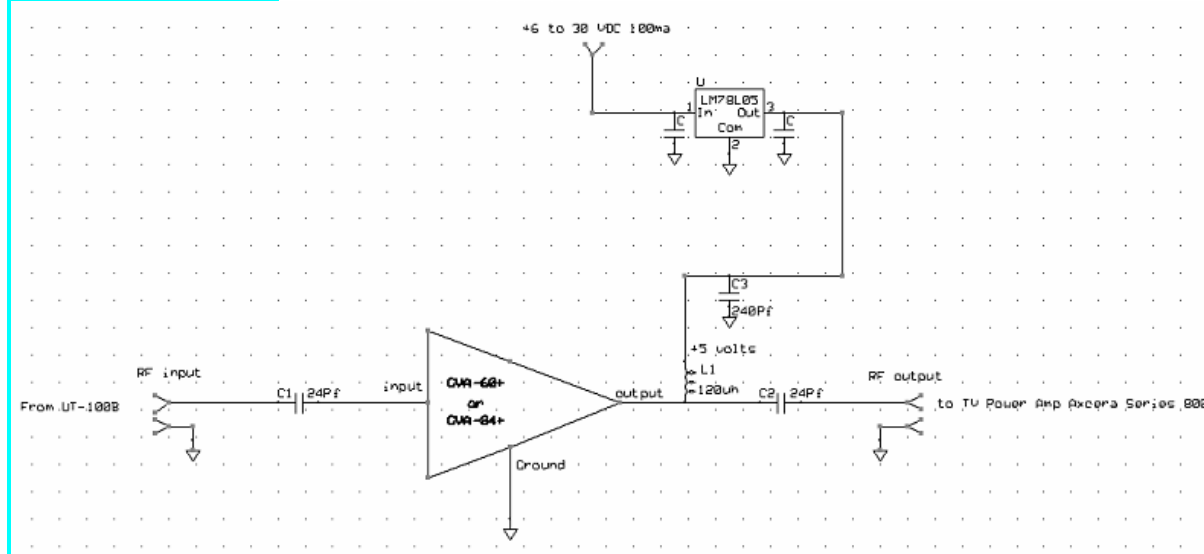
TS Capture: This is an install program that allows you to capture video hardware to a file.

TS Player: TS Player is a Transmit program that allows you to control The UT 100-B transmit and sends the TS file to the unit.

TS Player Settings for distance would be the following:

Bandwidth 2 MHZ, Frequency 439000 or 437000, code rate at 1/2, guard interval 1/4, transmission mode 2K. The attenuation/Gain controls the output Level. Remember that TS File is the location of the transmit stream that you wish to send. TS stands for transmit stream. Transmit files are made from videos or pictures. Some use the DC-101 cameras from Hides Co. These will cost about \$125, run from 5 volts, and the DC-101 is in HD video. Below is a diagram of a GVA-60 MMIC amplifier to increase output to ~ 60 milliwatts.

[GVA-60 CIRCUIT.png]



Above is a picture as received by KA8MFD From WB8LGA 60 milliwatts at about 9 miles.



Here's a picture from W8URI 7 watts at about 5 miles



From W8ZCF 150 watts at about 127 miles

With the purchase of the Hides UT 100-B, the initial set up was a little tricky but worked well. Now you are ready to send and receive digital video terrestrial. Hides software offered us test videos to get everything set up to transmit and receive digital ATV. They were HD with sound. Now we needed to see if we could recreate these for ourselves. The need to transmit TS streams was an experience. After some trial and error we have come up with the following suggestions.

We were able to use Wondershare Video Editor V3.5.08. It can be downloaded from their site. (www.wondershare.com/video-editor/)

You may import video and pictures and edit to your needs. This is a trial version and will put watermarks on your converted videos.

The cost for the full version is about \$40 but can be had from time to time for \$30 on sale.

We edit all video as needed using Wondershare and export as an AVI file. The TS Player program for the UT 100-B worked marginally well with some lag. Wondershare will import most video formats and pictures. We found making our own call signs very easy with any program. Just save as JPEG and import to Wondershare Video Editor. Wondershare offers many options to modify your video.

When the export file window shows up, under the device option check IPHONE. Under profile, check AVI. The name would be whatever you wanted to call it. On the save to file, you need to create a file somewhere to save this. It will be in AVI. Remember this; you will need to find it later. Advanced settings are all okay.

Now that you have the video edited to transmit, you need to convert it to a TS file. Cyberlink Media Espresso V6.5 is a program that will convert AVI files to TS files. (www.cyberlink.com/products/mediaespresso/overview_en_US.html?&r=1) There is a trial version of this available but it also leaves a watermark. There have been some issues receiving audio on 2 and 4 MHZ with this conversion but stay tuned to future articles for updates. WB8LGA has since received a program from a company called Febon that converts to TS files. Testing is in progress and will be reported on at a later date.

All of the tests so far show that 2 MHZ bandwidth, QPSK, code rate of $\frac{1}{2}$, guard interval of $\frac{1}{4}$, and transmission mode of 2K work best for distance. Adjustments are made for input data rate (you can go to 16 QAM or 64 QAM to increase modulation data rate) to keep input modulation rate below the output data rate. The very few settings and the ability of the Hides UT 100-B to scan all variables made getting a locked picture almost foolproof. Preamplifiers are used on the receive side.

The above described are only a sampling of what may work. Other programs may be available that will also work. Feel free to experiment and let us know.

KA8MFD uses a laptop with Windows 7, 4Gig ram, and 320 Gig hard drive.

W8URI uses a laptop with Windows Vista etc etc.....

WB8LGA uses windows 7 or old Laptop with XP.....

Good luck to all. Once you see a digital ATV picture, you will be hooked.

...WB8LGA

NEW FORUM AVAILABLE FOR DATV-Express DVB-S/DVB-T USERS

The DATV-Express project team sees the need to use a forum for technical support....instead of private E-mails. A standalone forum will allow a list of old topics which can be a consolidated history of past questions, issues, and solutions to specific questions and issues....for new board owners. That is: this new forum becomes a form of FAQ.

You are invited to join this new Yahoo Groups Support Forum for DATV-Express, whether you are a board owner or just want to follow progress on the DATV-Express project. You must subscribe to see the forum. Subscribe by sending an email to:

datv-express-subscribe@yahoogroups.com

After joining, the DATV-Express Support Forum can be seen at <https://groups.yahoo.com/neo/groups/DATV-Express/info>

73...de Ken W6HHC

DAYTON HAMVENTION FRIDAY NIGHT DINNER

Again, we had a great time at the Dayton Hamvention ATV Dinner on Friday night. We had a great dinner followed by an ATV question and answer session and door prizes. This year the attendance was down a bit from last year with about 30 people in attendance. I don't know why. Perhaps we don't publicize it enough.

Pass the word around guys! This is a great way to wind down from a tiring trip around the flea market earlier in the day. In addition, it's on the way back to Columbus so it's not out of the way.

Let's see a better turnout next year.

...WA8RMC



DAYTON HAMVENTION ATV FORUM

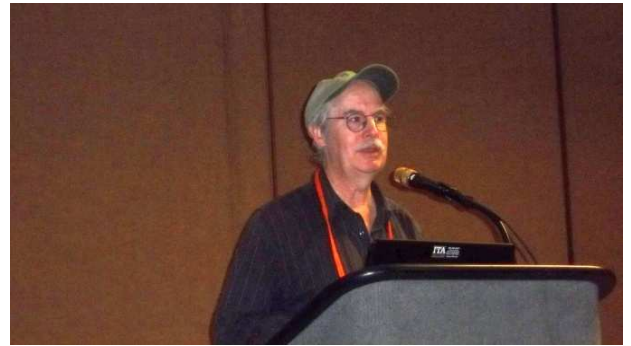
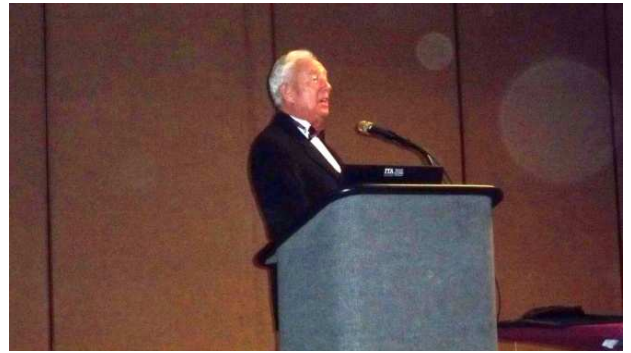
Well, it's Hamvention ATV Forum time again. As usual, we had a great lineup of topics again this year. First, I presented a 5 minute introduction followed by Gordon West, WB6NOA, with his ATV antics.

Then Bill Brown, WB8ELK, presented a topic on ATV equipped Quadcopters and RC planes. Next in the lineup was Mike Collis, WA6SVT, DATV who talked about amplifier Linearization and an ATVQ Magazine overview.

Last, I described the details of our DATV-Express PCB followed by a brief question and answer session and wrap-up.

Everyone felt the material was well presented and relevant to ATV. It was disappointing to me to see fewer people here than last year. It was at a good time and well advertized so I have to assume there are fewer people interested in ATV than in the past. However, the 35 or so people that attended all said they intend to stay interested in ATV. That's a good sign. Now, we have to get out there and stir some interest in our hobby or it will

Remember, our new forum time was 11:30AM to 2:00PM which I hope will be repeated next year. We had more time this year but was followed by another group so we had to end on time. Last year we were the last forum of the day so if it ran over a bit, no one complained. However, I noticed people leaving early last year and thought they were bored. I found out later they left early in order to catch the first bus to leave. If it's in the middle of the day we avoid that but run into the lunch time instead. Solution: bring in your lunch to the forum! Maybe I can bring snacks!!!
...WA8RMC

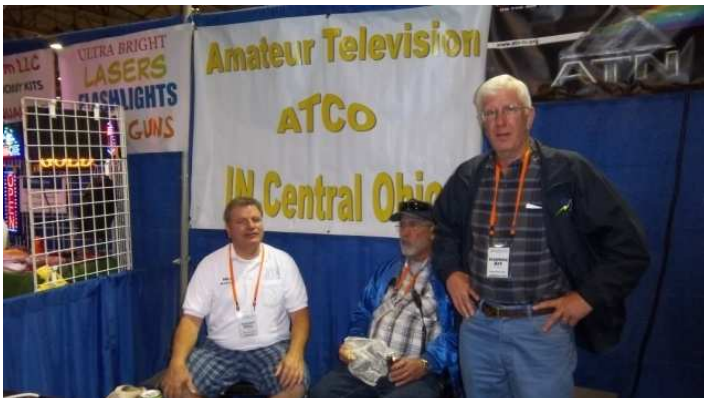


DAYTON HAMVENTION ATN BOOTH

We had a "No Cost" inside booth at Dayton again this year. It is given to the ATN group in California to advertize their club activities including ATCO. We are given the space free as long as we don't sell anything at the booth. This year we had ATVQ Magazine give-away's and a DATV-Express board demonstration of actual transmitting and receiving DVB-S signals.

Pictured below (L- R) are Mike, WB6SVT, John, and myself. The lower right photo shows Mike, John and Bill Brown, WB8ELK. You can see the copies of ATVQ and the DVB-S demo on the table.

...WA8RMC



ATCO SPRING EVENT

MAY 4, 2014

The Event was held at ABB in Westerville, OH. Again Ken W8RUT was kind to secure the location for the Event, which has a nice parking area and meeting room immediately off of the parking lot.

The weather was very cooperative for this Event and there was a little tailgating going on in the parking lot before the main festivities started.

Art WA8RMC brought in the food – very good, and there was plenty of it. Thanks again for a good selection, Art!

The main Event discussion got underway led by Art's welcome and introductions by the attendees.

Art asked the group how to encourage participation both inside and outside the organization. Ken mentioned they had presented to CORC before – maybe they could do it again. Roger WB8DZW said he could go down through the roster and make some calls. Other discussion followed.

Art brought up that he had done a presentation awhile back in Logan for the hams there. He didn't know if there was any further interest there.

Discussed was possibility of future receive or repeater site northeast of Columbus close to Phil N8LRG. Elevation is very favorable.

Art mentioned the work done on DVB-T and sounded encouraging. Went into some further discussion about mode – Charles, WB8LGA, states to the effect DVB-T seems to be the best of digital modes tried so far as for different levels involved and even under some compression.

A number of Silent Keys since the last Event were brought up, among them John Shaffer W3SST.

The club is looking at possibly transmitting DVB-T instead of QAM or analog. Perhaps switching can be done via Touch-Tones – switching 70cm transmit between DVB-T and analog. There was some more discussion regarding antennas that may be used and some other technical considerations.

The door prize drawing was after the general discussion – there were quite a number of prizes including a hipot tester, signal generators, scanner, etc. Everyone should have left with a prize, or prizes as there were many up for grabs!

Ken had set up a DVB-T demo both for receive and transmit – those interested stayed past the regular meeting and enjoyed looking at the equipment, and could ask questions of Ken and others regarding details of how it worked, and among other things discuss the hardware and software used. Thanks Ken!

...Mark Cring N8COO, ATCO secretary.



RED-WHITE-BOOM! Another Year, another Success

This year's RWB was much the same as the previous ones...no problems and that's a good thing. The weather was great, not too hot and not too cool...just right! And as a bonus we had low humidity. The police reported no significant issues too. All equipment worked great and no failures but I'm not sure the police looked at our video that much. About 8PM they decided they wanted to watch their own HD street level cameras so one of our video feeds was pulled and replaced with their cameras.

I'm not convinced that our presence is all that important so I need to review it before this time next year. It's a lot of work to set up all of that equipment and few ATCO people want to help so I'm thinking about not doing it next year. I know it's a public service but...Next year the fireworks will be launched from a new undisclosed location since the Veterans Memorial building will be torn down. In addition to that, the Columbia Gas building is now sold to developers so it may not be available next year for a remote control location. Jeff Gergal, WX8U, and Bob Rector, W8RWR, were instrumental helpers this year for without them I would not have been able to do it myself. Thanks guys!



Also, I made a new quad display monitor for the equipment this year (shown at right propped up by a 2x4). They are only 3.5 inch displays but that's all that is needed and eliminates lugging larger monitors to the observation location. On top of the display enclosure is my quad display selector so a 4 image display can be sent to the EOC downstairs.

As for the fireworks, they were great this year...much better than last year in my opinion. But, next year I may only work with Westerville on their fireworks program that I know is needed.
...WA8RMC

ATCO WEBSITE UPDATE

A new release of the ATCO website will go live on August 1, 2014. The site should contain everything that currently exists including the complete set of newsletters beginning in June of 1982. During the initial go live period some of the earlier newsletters may not show up as I have not (as of this writing) uploaded all of them – but that should be done shortly. There will be some noticeable differences:

User Accounts

All members will be required to re-register on the new website. If you have ever previously registered, then the new website will pull in your old membership status. That status may be displayed by clicking on the My Account item of the Members tab on the menu bar. It will tell you when your dues expire and what your member status is – paid member, lapsed member or registered. You will still be able to pay dues online by going to the “Pay Dues” item on the Members tab.

Roles

When you first register the website software will determine if you have registered in the past and if so whether or not your dues are current. If dues are current you will be registered with the “paid member” role. If you are a new member (we have no previous record for you on the old ATCO.tv site) then you would be registered with the “registered” role. If your dues are not paid through 2014 then you would be registered as a “lapsed member” – but remember this is a computer and it was programmed by a computer so mistakes are possible! If you register and think you are a paid up member and it shows otherwise, be sure to contact N8NT at n8nt@atco.tv so we can clear up the mistake.

There are additional roles so that in the near future we can allow other members of the club to publish or edit certain pages. This will make it easier to keep the content up to date. More on this later.

Menu

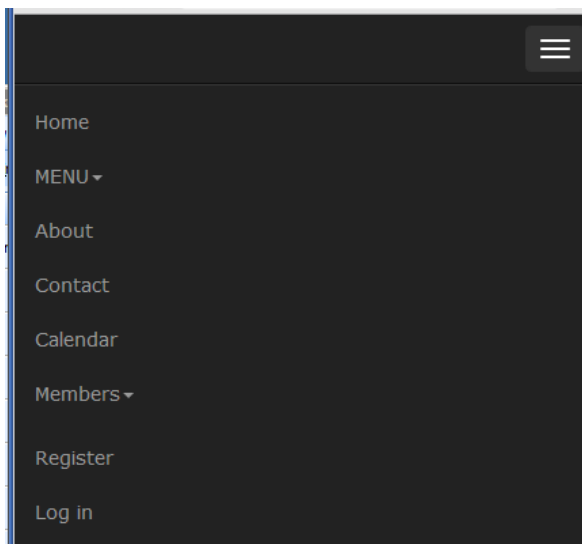
The menu is now located at the top of the page and is fixed so that if you scroll up or down the menu will still be present at the top. You won't lose the menu from now on. The main menu bar looks like:

Home MENU▼ About Contact Calendar Members▼ Register Log in

When viewed on a smart phone the menu will look like this at the top of the page:

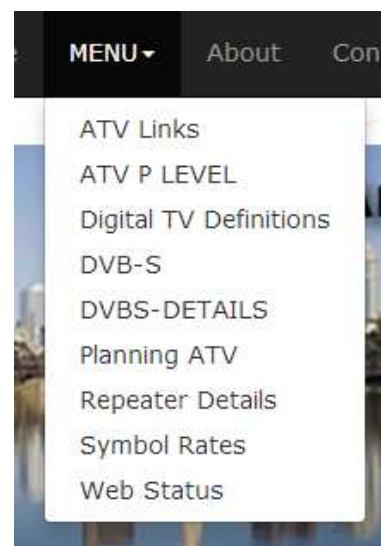


But clicking on the 3 horizontal bars at the right will open up the menu that is formatted for easy viewing on the smart phone. It would look like:



Notice that there are two tabs on the menu that have a small diamond shaped arrow – the MENU and the Members tabs.

If you press the MENU tab you will get a context menu that looks like what is at the right. It turns out that the new website allows any member who has the publish role to be able to edit any of the pages on this part of the menu. Additionally, new pages can be created as needed by other than myself. And, those pages can also be edited by any member with the publishing role. It was mentioned above that once registered a member will now be able to easily determine if dues are up to date. Simply click on the Members tab



on the main menu bar above and a drop down context menu like this will appear. Select the “My Account” option to see the member current status.

Responsive Web Site

The new website is now “responsive” – a new web buzzword that means the site can be viewed in an easy to read and navigate format on any type of device, i.e., a desktop, a tablet or a smart phone. The new website will figure out what it is being viewed on and will then automatically adjust the page content to make it easily viewable.

New Features

Calendar

A new tab appears on the website – Calendar – which is a simple calendar where members with the proper role will be able to update the calendar by adding short details about an event for a particular date and time.

Content Managed Site

The new site’s pages can now be edited and updated by members designated with the appropriate roles. Page content is now stored in a database so that it can be saved and edited online. There are currently no publishers registered but at least now that can be accomplished when needed.

New Pages

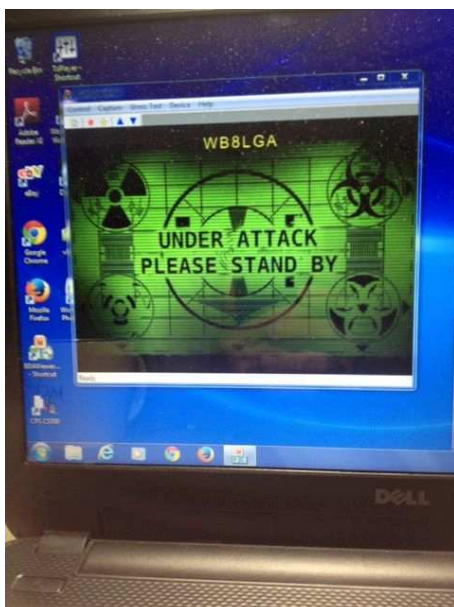
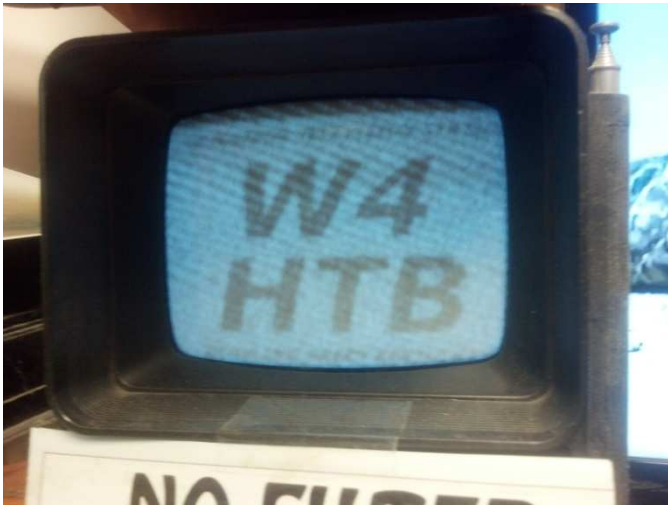
Here are a couple of ideas for some new pages. One is a photo gallery page where members can upload digital pictures. Another is the Saturday Breakfast Schedule and another would be the bulletin board page. These last two are examples of pages that can probably be best published by WB8CJW when he publishes the same content over the repeater.

Tutorials

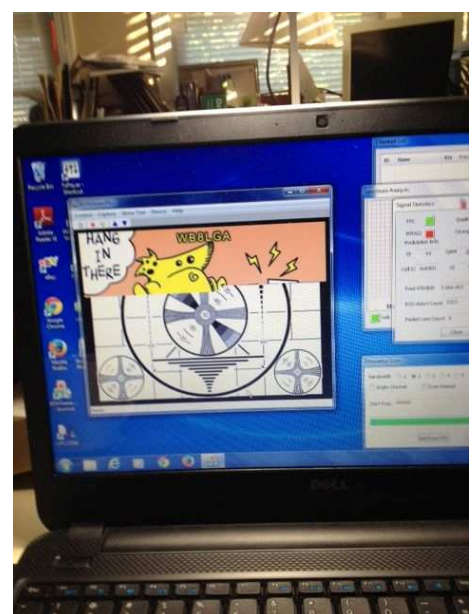
I will be publishing a couple of tutorial videos to explain how to use the new website. This may be especially useful for publishers using the content management features of the when that time comes.

ATV DX

There was a good band opening on 70cm today 07/26/2014. Digital was DVB-T and analog was AM modulation. Here are the pictures I got from Hank W4HTB 311 miles/500Km away. The first one at below right is the analog picture, just about P5. The remaining three are DVB-T.



These two pictures are what W4HTB got from me. They are both DVB-T. So, as it turns out, there really is ATV Dx around here. You just have to get up early to participate in the fun.



CONSTRUCTION ARTICLE INDEX

The following list is an index of all construction related material that has appeared in the ATCO Newsletter since its inception in the early '80's. This is a handy reference for that particular construction article that you knew existed but didn't want to wade through each issue to find it. All Newsletters below are also listed in order in the ATCO homepage under "Newsletters". CTRL Click on www.atco.tv. Once you locate the Newsletter section, the displayed list can then be re-sorted as needed by clicking on the "date" in the header.

...Bob N8OCQ

Issue	Page(s)	Article
Vol 1 II	5	439 Beam
Vol 2 I	4	439 Beam
Vol 2 II	8,9	439 Parabolic Ant
Vol 2 II	9	Video Modulator
Vol 2 III	7	1296 Ant 45 Ele loop yagi
Vol 2 III	10	RF Power Indicator (in-line) for 1296 MHZ
Vol 2 SE	2,3	Diode Multiplier for 23 CM
Vol 2 SE	4,5	1296 MHZ 10 Watt Solid State Linear Amp
Vol 4 I	3	RF/Video Line Sampler
Vol 4 II	3	P-Unit Meter
Vol 4 II	7,10,11	UHF Gated Noise Source
Vol 4 II	12	420 - 450 Broom Handle Rhombic Ant
Vol 4 III	4,8	25 Element 1.26 Loop Yagi
Vol 4 III	6	Video Modulator (Tube Type)
Vol 5 I	3	Video Modulator One Transistor
Vol 5 II	4,7	900 MHZ Yagi Ant
Vol 5 II	6	Video Modulator for 2C39 Final
Vol 5 III	3	440 MHZ Hidden Transmitter Finder
Vol 6 I	3	Video Line Amp
Vol 6 I	8	25 Ele 910 MHZ Loop Yagi
Vol 6 II	4,6,7	Microwave Oven ATV Xmitter
Vol 6 II	5	Matching a Quad Driven Ele
Vol 6 II	8	Power Divider for 33CM
Vol 9 III	5,7	16 Ele Loop Yagi for 439.25 MHZ
Vol 10		No Articles
Vol 11 II	4,5,6	439 48 Ele Collinear Ant
Vol 11 III	7	1280 MHZ Cavity Filter
Vol 12 I	6,7,8	439 & 1200 Horz Polarized Mobile Ant
Vol 12 II	5,6,7	ATV Line Sampler
Vol 12 II	10	439 & 1280 Interdigital Filter(s)
Vol 12 III	6,7,8	439 Cheap Attic Ant
Vol 13 I	9, 10	High Level Modulator for ATV
Vol 13 II	5	VGA to NTSC Converter for Computer
Vol 13 III	9, 10	AM Video Modulator
Vol 13 III	4	1200 MHZ Transistor Linear Amp
Vol 13 III	6	900 & 1200 MHZ Loop Yagis
Vol 14 III	8	439 31 EleYagi
Vol 14 III	12, 13	1250 MHZ FM ATV 3 Watt Xmitter
Vol 15 I	16	427.25 Horz J-Pole Ant
Vol 15 II	14	2400 MHZ Loop Yagi
Vol 15 III	8	Wavecom Modification
Vol 15 III	12,13,14	2.4 Gig Antenna's
Vol 16 II	20	2.4 Gig Helix Ant
Vol 16 III	4	1280 MHZ Loop Yagi
Vol 17 I	14, 15	Video Amp (Multi Output)
Vol 18		No Articles
Vol 19 III	4	Pwr Supply for 28 Volt Ant Relay
Vol 20 III	9, 10	Video Sampler
Vol 21 II	4	RF Pwr Amp for 900/1200 MHZ
Vol 21 II	14	10-14 Volt Doubler for 28 Volt Ant Relays
Vol 21 III	5	S-Video To Composite Adaptor
Vol 21 III	3,4	Video Noise Rejection Amp
Vol 21 III	14,15,16 ,17	"S" Meter For Comtech Boards

Vol 22 I		No Articles
Vol 22 II	10	1260 MHZ Cavity Filter
Vol 22 III		No Articles
Vol 22 III		No Articles
Vol 23 I		No Articles
Vol 23 II	5,6	Linear 60 Watt For 70CM
Vol 23 II	8,9	Video Modulator Update
Vol 23 III		No Articles
Vol 23 III		No Articles
Vol 24 I	13	RF Sniffer For 2.4 GIG
Vol 24 II		No Articles
Vol 24 III	3	Quantum 1500 Rec Tuner Mod
Vol 24 III	9	Battery Recharge Ckt
Vol 25 I		No Articles
Vol 25 II	6,7	Comtech TX Module Improvement
Vol 25 III	11	Comtech TX Module Improvement Correction
Vol 26 I	6	Isolator (Circulator) Mod. 850 To 1260 MHZ
Vol 26 II	5,6	Comtech 1200 MHZ rec. module improvements
Vol 26 III		No Articles
Vol 26 III	9	Remote Touch Tone Decoder For Your Shack
Vol 27 I	10	ATV Low Pass Filter (427 Mhz)
Vol 27 II	15	PictureTel Camera Data Cable Wiring
Vol 27 II	10	ATV Low Pass Filter (427 Mhz)
Vol 27 II	15	PictureTel Camera Data Cable Wiring
Vol 27 III		No articles
Vol 27 III		No articles
Vol 28 I	11	Super 1280 MHZ amplifier
Vol 28 II		No articles
Vol 28 III		No articles
Vol 28 III		WB8LGA Antenna switching system
Vol 29 I		No articles
Vol 29 II		1280 MHZ Hi Gain Panel Antenna
Vol 29 III		No articles
Vol 29 III		No articles
Vol 30 I		No articles
Vol 30 II		No articles

This is the complete list for construction articles shown in past ATCO newsletters. The page numbers listed may not match the actual page in the Newsletter. They are the numbers shown in the PDF file. Some early issues are missing. Art did not have a copy of every year. This list is complete through Volume 30 III.

...Bob N8OCQ

NEW MEMBER(S)

Let's welcome the new members to our group! If any of you know anyone who might be interested, let one of us know so we can flood them with information. New members are our group's lifeblood so it's important we aggressively recruit new faces.

...WA8RMC

LOCAL HAMFEST SCHEDULE

This section is reserved for upcoming Hamfests. They are limited to Ohio and vicinity easily accessible in one day. Anyone aware of an event incorrectly or not listed here; notify me so it can be corrected. This list will be amended, as further information becomes available. To see additional details for each Hamfest, Control Click on the blue title and the magic of the Internet will give you the details complete with a map! To search the ARRL Hamfest database for more details, CTL click [ARRLWeb: Hamfest and Convention Calendar](#)WA8RMC.

08/02/2014 | [Columbus Hamfest/Ohio Section Conference](#)

Location: Columbus, OH

Type: ARRL Hamfest

Sponsor: Voice of Aladdin Amateur Radio Club (W8FEZ)

Website: <http://www.columbushamfest.com>

08/17/2014 | [Warren ARA's Annual Hamfest & Computer Show](#)

Location: Cortland, OH

Type: ARRL Hamfest

Sponsor: Warren Amateur Radio Association

Website: <http://www.w8vtd.org>

08/24/2014 | [The Cuyahoga Falls ARC's 6th Annual Tailgate Hamfest](#)

Location: Stow, OH

Type: ARRL Hamfest

Sponsor: Cuyahoga Falls Amateur Radio Club

Website: <http://cfarc.org/tailgate2014.html>

09/07/2014 | [Findlay Hamfest](#)

Location: Findlay, OH

Type: ARRL Hamfest

Sponsor: Findlay Radio Club

Website: <http://www.w8ft.org>

09/21/2014 | [OH-KY-IN Amateur Radio Society Hamfest](#)

Location: Cincinnati, OH

Type: ARRL Hamfest

Sponsor: OH-KY-IN ARS

Website: <http://www.ohkyin.org>

09/28/2014 | [CLEVELAND HAMFEST AND COMPUTER SHOW](#)

Location: Berea, OH

Type: ARRL Hamfest

Sponsor: Hamfest Association of Cleveland, Inc.

Website: <http://www.hac.org>

10/19/2014 | [2014 Conneaut ARC \(W8BHZ\) Hamfest](#)

Location: Conneaut, OH

Type: ARRL Hamfest

Sponsor: Conneaut Amateur Radio Club & American Legion Auxiliary Cowle 151

Website: <http://qsl.net/w8bhz/>

11/02/2014 | [Massillon ARC Hamfest](#)

Location: Massillon, OH

Type: ARRL Hamfest

Sponsor: Massillon Amateur Radio Club

Website: <http://www.w8np.org>

INTERNET ATV HOME PAGES (list verified 01/21/12)

Domestic homepages

http://www.atco.tv	Ohio, Columbus, homepage (ATCO)
http://www.w8bi.org/atv/atvresources.html	Ohio, Dayton ATV group (DARA)
http://www.citynight.com/atv	California, San Francisco ATV
http://atn-tv.org/ATN.htm	California, Amateur Television Network in Central / Southern
http://members.tripod.com/silatvg	Illinois, Southern, Amateur Television group
http://www.ussc.com/~uarc/utah_atv/id_atv1.html	Idaho ATV
www.bratsatv.org	Maryland, Baltimore Radio Amateur Television Soc. (BRATS)
www.qsl.net/k7atv/	Salem, Oregon Amateur Television Associations-Salem
http://www.qsl.net/kd2bd/atv.html	New Jersey, Brookdale ARC N2SMT/R repeater
http://www.ipass.net/~teara/menu3.html	North Carolina, Triangle Radio Club (TEARA)
http://www.oregonatv.org	Oregon, Portland OATVA ATV Association W7AMQ/R repeater
http://members.bellatlantic.net/~theoikat/	Pennsylvania, Phila. Area ATV W3PHL repeater
http://www.hotarc.org/atv.html	Texas, WACO Amateur TV Society (WATS)
www.qsl.net/ww7ats	Washington, Western Washington Television Soc. (WWATS)
http://www.shopstop.net/bats/	Wisconsin, Badgerland Amateur Television Society (BATS)
http://www.kcatvg.org	Kansas, Kansas City ATV Group WR0ATV repeater (KCATVG)

Foreign homepages

http://www.batc.tv	British ATV club (BATC)
http://www.batc.org.uk/cq-tv	British ATV Club and CQ-TV Magazine

Misc other ATV related sites

http://www.atv-tv.org	The Amateur Television Directory
http://www.atn-tv.org	Amateur Television Network
http://www.atvquarterly.com	Amateur Television Quarterly Magazine
http://gb3lo.camstreams.com	"GB3LO" Repeater Camstream westoft, UK
http://www.ham-radio.com/sbms	"SBMS" San Bernardino Microwave Society
http://www.qsl.net/kc6ccc/	"METS" Microwave Experimenters Television System
http://www.icircuits.com/store/index.html	Intuitive Circuits ATV products
http://www.atvresearch.com/	ATV Research Co, cameras & related security products
http://www.downeastmicrowave.com/	Down East Microwave, UHF/Microwave parts
http://www.directivesystems.com/	Directive Systems, UHF/VHF/Microwave antennas
http://www.m2inc.com/	M2 Antenna Systems
http://www.hamtv.com/	PC Electronics, ATV equipment

TUESDAY NITE NET ON 147.48 MHz SIMPLEX

Every Tuesday night @ 9:00PM WA8RMC hosts a net for the purpose of ATV topic discussion. There is no need to belong to the club to participate, only a genuine interest in ATV. All are invited. For those who check in, the general rules are as follows: Out-of-town and video check-ins has priority. A list of available check-ins is taken first then a roundtable discussion is hosted by WA8RMC. After all participants have been heard, WA8RMC will give status and news if any followed by late check-in requests or comments. We usually chat for about ½ hour so please join us locally or via internet if you can.

ATCO TREASURER'S REPORT - de N8NT

OPENING BALANCE (04/22/14).....	\$2118.30
RECEIPTS(dues).....	\$ 80.00
Spring Event food	\$ (182.74)
PayPal fees.....	\$ (1.18)
USPS postage.....	\$ (10.50)
CLOSING BALANCE (07/27/14).....	\$ 2003.88

ATCO REPEATER TECHNICAL DATA SUMMARY

Location: Downtown Columbus, Ohio
 Coordinates: 82 degrees 59 minutes 53 seconds (longitude) 39 degrees 57 minutes 45 seconds (latitude)
 Elevation: 630 feet above average street level (1460 feet above sea level)

TV Transmitters: 423 MHz QAM digital, 427.25 MHz VSB AM, 1258 MHz FM, 1268 MHz QPSK digital, 2433 MHz FM, 10.35 GHz FM
 (multipole filters in output lines of all transmitters)
 Output Power - 423.00 MHz : 5 watts continuous (Digital QAM ATV on cable channel 57)
 427.25 MHz: 50 watts average 100 watts sync tip (Analog ATV on cable channel 58)
 1258 MHz: 40 watts FM analog ATV
 1268 MHz 20 watts continuous DVB-S (QPSK) DATV SR=3.125Mps, FEC=3/4 , 2 video channels.
 (PMT PID:32, Video PID:162, Teletext PID:304, PCR PID:133, Audio PID:88, Service ID:5004)
 2433 MHz: 15 watts FM analog ATV
 10.350 GHz: 1 watt continuous analog FM ATV
 Link transmitter - 446.350 MHz: 5 watts NBFM 5 kHz audio

Identification: 423, 427, 1258, 1268, 2433, 10.350 GHz transmitters video identify every 15 min. with ATCO & WR8ATV on 6 different screens.
 1268 MHz digital & 10.350 GHz analog - Continuous transmission of ATCO & WR8ATV with no input signal present.

Transmit antennas: 427.25 MHz - Dual slot horizontally polarized "omni" 7 dBd gain major lobe east/west, 5dBd gain north/south
 423.00 MHz - Diamond U200 vertically polarized 9dBd gain omni (digital QAM ATV)
 1258 MHz - Diamond vertically polarized 12 dBd gain omni (Analog ATV)
 1268 MHz - Diamond vertically polarized 12 dBd gain omni (Digital DVB-S ATV)
 2433 MHz - Comet Model GP24 vertically polarized 12 dBd gain omni
 10.350 GHz - Commercial 40 slot waveguide horizontally polarized 16 dBd gain omni

Receivers: 147.480 MHz - F1 audio input with touch tone control. (Input here = output on 446.350)
 439.250 MHz - A5 NTSC video with FM subcarrier audio, lower sideband. (Input here = output on all TV transmitters)
 449.975 MHz - F1 audio input aux touch tone control. 131.8 Hz PL tone. (Input here = output on 446.350).
 1288.00 MHz - F5 video analog NTSC. (Input here = output on all TV transmitters)
 1288.00 MHz - DVB-S (QPSK) digital SR=4.167Mps, FEC=7/8, PCR PID:33, Video PID:33, Audio PID:49
 This input feeds all transmitters and also directly to 1268 MHz digital output channel 2. Therefore, 1280 DATV input and 439
 or 2398 can be ON at the same time. (Input here = output on all TV transmitters)
 2398.00 MHz - F5 video analog NTSC. (Input here = output on all TV transmitters)
 10.450 GHz - F5 video analog NTSC

Receive antennas: 147.480 MHz - Vert. polar. Diamond 6dBd dual band (also used for 446.350 MHz link output)
 439.250 MHz - Horizontally polarized dual slot 7 dBd gain major lobe west
 1288.00 MHz - Diamond vertically polarized 12 dBd gain omni
 2398.00 MHz - Comet Model GP24 vertically polarized 12 dBd gain omni
 10.450 GHz - Commercial 40 slot waveguide horizontally polarized 16 dBd gain omni

Auto mode	Touch Tone	Result (if third digit is * function turns ON, if it is # function turns OFF)
Input control:	00*	turn transmitters on (enter manual mode-keeps transmitters on till 00# sequence is pressed)
	00#	turn transmitters off (exit manual mode and return to auto scan mode)
	264	Select Channel 4 Doppler radar. (Stays up for 5 minutes) Select # to shut down before timeout.
	697	Select Time Warner radar. (Stays up till turned off). Select # to shut down.
	003	Select room camera (Always exit by selecting 001)
	002	Select roof camera. Select room cam first then 002 for roof cam. (Always exit by selecting 001)
	001	Select 2398 MHz receiver for auto scan to continue

Manual mode Functions:	00* then 1 for Ch. 1	Select 439.25 receiver
	00* then 2 for Ch. 2	Select 1280 digital receiver
	00* then 3 for Ch. 3	Select 1280 analog receiver
	00* then 4 for Ch. 4	Select 2398 receiver
	00* then 5 for Ch. 5	Select video ID (6 identification screens)
	01* or 01#	Channel 1 439.25 MHz scan enable (hit 01* to scan this channel & 01# to disable it)
	02* or 02#	Channel 2 1280 MHz digital receiver scan enable
	03* or 03#	Channel 3 1280 MHz analog receiver scan enable
	04* or 04#	Channel 4 2398 MHz scan enable
	A1* or A1#	Manual mode select of 439.25 receiver audio
	A2* or A2#	Manual mode select of 1280 digital receiver audio
	A3* or A3#	Manual mode select of 1280 analog receiver audio
	A4* or A4#	Manual mode select of 2398 receiver audio
	C0* or C0#	Beacon mode – transmit ID for twenty seconds every ten minutes
	C1* or C1#	C1* to disable 427 MHz transmitter, C1# to enable it
	C2* or C2#	C2* to disable 1268 MHz digital transmitter, C2# to enable it

ATCO MEMBERS as of July 2014

Call	Name	Address	City	St	Zip	Phone
KD8ACU	Robert Vieth	3180 North Star Rd	Upper Arlington	OH	43221	614-457-9511
KC3AM	Dave Stepnowski	735 W Birchtree Ln	Claymont	DE	19703	
AH2AR	Dave Pelaez	1348 Leaf Tree Lane	Vandalia	OH	45377	937-264-9812
W8ARE	Larry Meredith III	6070 Langton Circle	Westerville	OH	43082-8964	
N8ASB	Daun Yeagley	1353 Gurneyville Road	Willmington	OH	45177	
K9BIF	Charlie Short	PO Box 554	Goshen	IN	46527-0554	
WB8CJW	Dale Elshoff	8904 Winoak Pl	Powell	OH	43065	614-210-0551
N8COO	C Mark Cring	2844 Sussex Place Dr.	Grove City	OH	43123	614-836-2521
N1CTF	John Chartkoff	2288 Nottingham Road	Upper Arlington	OH	43221	
WB8CXO	Mike Young	289 Gaylord Dr	Munroe Falls	OH	44262	
N3DC	William Thompson	6327 Kilmer St	Cheverly	MD	20785	301-772-7382
WA8DNI	John Busic	2700 Bixby Road	Groveport	OH	43125	614-491-8198
K8DMR	Ron Fredricks	8900 Stonepoint Ct	Jennison	MI	49428-8641	
K8DW	Dave Wagner	2045 Maginnis Rd	Oregon	OH	42616	419-691-1625
WB8DZW	Roger McEldowney	5420 Madison St	Hilliard	OH	43026	614-405-1710
KC8EVR	Lester Broadie	108 N Burgess	Columbus	OH	43204	
WA8FLY	Rod Shaner	16012 London Rd.	Orient	OH	43146	740-279-3614
N8FRT	Tom Flanagan	6156 Joliff St.	Galloway	OH	43119	
W8FTX	George Biundo	3675 Inverary Drive	Columbus	OH	43228	614-274-7261
WB2FVE	Craig Blaine	1195 Hooverview Drive	Westerville	OH	43082	614-891-5378
W8FZ	Fred Stutske	8737 Ashford Lane	Pickerington	OH	43147	
WA8HFK,KC8HIP	Frank & Pat Amore	3630 Dayspring Dr	Hilliard	OH	43026	614-777-4621
W6HHC	Ken Konechy	340 S. Craig Dr.	Orange	CA	92869	
WA8HNS	Mike Gray	5029 St Rt 41 NW	Washington Ct Hs	OH	43160-8740	740-335-5133
N8HRC	John Hempstead	1190 County Road 9	Brellefontaine	OH	43311	
W4HTB	Henry Cantrell	905 Wrenwood Dr.	Bowling Green	KY	42103	270-781-9624
WB2IIR	Michael Anthony	370 Georgia Drive	Brick	NJ	08723	
N8IJ	Dick Knowles	1799 Homeward Ave	Lima	OH	45805	419-231-7277
W8KHP	Allan Vinegar	2043 Treetop Lane	Hebron	Ky	41048	
WA8KQQ	Dale Waymire	225 Riffle Ave	Greenville	OH	45331	937-548-2492
N8LRG	Phillip Humphries	30856 Coshocroft Road	Walhonding	OH	43843	614-3543744
WB8LGA	Charles Beener	2540 State Route 61	Marengo	OH	43334	
KD8KDM	Mike Bowlus	127 W. Plum St. PO box 221	Saint Paris	OH	43072	
W8MA	Phil Morrison	154 Llewellyn Ave	Westerville	OH	43081	
KA8MFD	Ross McCoy	227 S Boundary St PO Box 9	Edison	OH	43320	
KA8MID	Bill Dean	2630 Green Ridge Rd	Peebles	OH	45660	
N8NT	Bob Tournoux	3569 Oarlock Ct	Hilliard	OH	43026	614-876-2127
N0OBG	Jim Conley	33 Meadowbrook C C Est	Ballwin	MO	63011	
N8OCQ	Bob Hodge Sr.	3750 Dort Place	Columbus	OH	43227-2022	
W6ORG,WB6YSS	Tom, Maryann O'Hara	2522 Paxson Lane	Arcadia	CA	91007-8537	626-447-4565
KE8PN	James Easley	1507 Michigan Ave	Columbus	OH	43201	614-421-1492
WA8RMC	Art Towslee	438 Maplebrooke Dr W	Westerville	OH	43082	614-891-9273
W8RRJ,W8WTB	John Hull	580 E. Walnut St.	Westerville	OH	43081	614-882-6527
W8RUT,N8KCB	Ken & Chris Morris	2895 Sunbury Rd	Galina	OH	43021	
W8RVH	Richard Goode	9 Master Street Apt A	Springfield	OH	45504	937-478-6488
W8RQI	Ray Zeh	2263 Heysler Rd	Toledo	OH	43617	
KB8RVI	David Jenkins	1941 Red Forest Lane	Galloway	OH	43119	614-853-0679
W8RWR	Bob Rector	135 S. Algonquin Ave	Columbus	OH	43204-1904	614-276-1689
W8RXX,KA8IWB	John & Laura Perone	3477 Africa Road	Galena	OH	43021	614-579-0522
WA6RZW	Ed Mersich	34401 Columbine Trl West	Elizabeth	CO	80107	
W8SJV, KA8LTG	John & Linda Beal	5001 State Rt. 37 East	Delaware	OH	43015	740-369-5856
KB8SSH	Mike Cotts	3424 Homecroft Dr	Columbus	OH	43224	614-371-7380
W3SST	John Shaffer	6706 Gilette Dr	Reynoldsburg	OH	43068	614-751-0029
WA6SVT	Mike Collis	PO Box 1594	Crestline	CA	92325	
W8TIP	Gene Hawkins	1720 Liberty Street	Toledo	OH	43605	
KD8TIZ	Bob Holden	5161 Goose Lane Rd	Alexandria	OH	43001-9730	614-562-8441
K8TPY, K8FRB	Jeff & Dianna Patton	3886 Agler Road	Columbus	OH	43219	
NR8TV	Dave Kibler	243 Dwyer Rd	Greenfield	OH	45123	937-981-1392
W8URI	William Heiden	5898 Township Rd #103	Mount Gilead	OH	43338	419-947-1121
KB8UWI	Milton McFarland	115 N. Walnut St.	New Castle	PA	16101	
WA8UZP	James R. Reed	818 Northwest Blvd	Columbus	OH	43212	614-297-1328
KC8WRI	Tom Bloomer	PO Box 595	Grove City	OH	43123	
AA8XA	Stan Diggs	2825 Southridge Dr	Columbus	OH	43224-3011	
KB8YMQ	Jay Caldwell	4740 Timmons Dr	Plain City	OH	43064	
KC8YPD	Joe Ebright	3497 Ontario St	Columbus	OH	43224	
N8YZ	Dave Tkach	2063 Torchwood Loop S	Columbus	OH	43229	614-882-0771
W8ZCF	Ferrel Winder	6686 Hitching Post Ln.	Cincinnati	OH	45230	
K3ZKO	Ron Cohen	915 Rowland Ave	Cheltenham	PA	19012	215-828-1263
N8ZM	Tom Holmes	1055 Wilderness Bluff	Tipp City	OH	45371	
KA8ZNY,N8OOY	Tom & Cheryl Taft	386 Cherry Street	Groveport	OH	43125	614-202-9042

ATCO MEMBERSHIP INFORMATION

Membership in ATCO (Amateur Television in Central Ohio) is open to any licensed radio amateur who has an interest in amateur television. The annual dues are \$10 per person payable on January 1 of each year. Additional members within an immediate family and at the same address are included at no extra cost.

ATCO publishes this Newsletter quarterly in January, April, July, and October. It is sent to each member without additional cost. All Newsletters are sent via Email unless the member does not have an internet connection.

The membership period is from January 1ST to December 31ST. New members joining before August will receive all ATCO Newsletters published during the current year prior to the date they join ATCO. For example, a new member joining in June will receive the January and April issues in addition to the July and October issues. For those joining after August 1ST, they can elect to receive a complementary October issue with the membership commencing the following year or get the previous (3) Newsletters. Your support of ATCO is welcomed and encouraged.

Membership expiration notices will be sent out in January in lieu of Newsletters for those with an expired membership.

NOTE: Dues records on your individual portion of the ATCO website are listed as the date money is received and shows due one year from that date. The actual expiration is on January of the following year so we can keep the dues clock consistent with the beginning of each year.

ATCO CLUB OFFICERS

President: Art Towslee WA8RMC

V. President: Ken Morris W8RUT

Treasurer: Bob Tournoux N8NT

Secretary: Mark Cring N8COO

Corporate trustees: Same as officers

Repeater trustees: Art Towslee WA8RMC

Ken Morris W8RUT

Dale Elshoff WB8CJW

Statutory agent: Tom Bloomer KC8WRI

Newsletter editor: Art Towslee WA8RMC

ATCO MEMBERSHIP APPLICATION

RENEWAL ☐ NEW MEMBER ☐ DATE _____

CALL _____

OK TO PUBLISH PHONE # IN NEWSLETTER YES ☐ NO ☐

HOME PHONE _____

NAME _____

INTERNET Email ADDRESS _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____ - _____

FCC LICENSED OPERATORS IN THE IMMEDIATE FAMILY _____

COMMENTS _____

ANNUAL DUES PAYMENT OF \$10.00 ENCLOSED CHECK ☐ MONEY ORDER ☐

Make check payable to ATCO or Bob Tournoux & mail to: Bob Tournoux N8NT 3569 Oarlock CT Hilliard, Ohio 43026. Or, if you prefer, pay dues via the Internet with your credit card. Go to www.atco.tv and fill out the "pay ATCO dues" section. Alternately, you can use the ATCO web site www.atco.tv/PayDues.aspx directly. Credit card payment is made through "PayPal" but you DO NOT need to join PayPal to send your dues. Simply DO NOT fill out the password details and there will be no "PayPal" involvement.

ATCO Newsletter
c/o Art Towslee -WA8RMC
438 Maplebrooke Dr. W
Westerville, Ohio 43082

FIRST CLASS MAIL

**REMEMBER...CLUB DUES ARE NEEDED.
CHECK THE
MEMBERS PAGE OF ATCO WEBSITE FOR THE EXPIRATION DATE.
SEND N8NT A CHECK OR USE PAYPAL IF EXPIRED.**
